

REMARKS

No claims have been amended. Claims 1-18 remain in the application. No new matter has been added. Reconsideration of the application, as amended, is respectfully requested.

In the following text, specific references to the present application and the prior art are made using the notation “x:y”, where “x” denotes the page or column number, and “y” indicates the line number, within the document being discussed.

Also, arguments presented below are not represented to be the only existing reasons for patentability in view of the rejections made by the examiner. Merely, the arguments provided are believed to be sufficient to show the allowable nature of all claims of the current application in light of the specific rejections presented in the office action.

As a result of reopening prosecution of the application, the examiner has made new rejections of the claims based on 35 U.S.C. 102 and 35 U.S.C. 103(a). The applicant respectfully disagrees with the rejections as discussed below, and reconsideration of the claims as presented above is respectfully requested.

Comment on the Drawings

On the latest Office Action Summary (part of Paper No. 17), item number 10 regarding the drawings has been checked, but no indication is made as to whether they have been accepted or objected to by the examiner. The applicant respectfully requests that some indication be given on the next office action as to whether the drawings are acceptable.

Claim Rejections Under 35 U.S.C. 102

Currently, claims 1, 2, 4, 6, 11 and 13 stand rejected under 35 U.S.C. 102 as being anticipated by U.S. Patent Number 5,553,059 (“Emerson”). The applicant respectfully traverses. Specifically, Emerson does not teach the element of claims 1 and 11 requiring that the executing means or step include “the ability to generate test signals on any of the separate phone lines...” (claims 1 and 11).

In general, Emerson discloses a Network Interface Unit (NIU) 22 which contains a command detector circuit 34 and a pattern generator circuit 36 (FIG. 1). The NIU 22 is used to isolate a local loop 14 and customer premises 10 of a digital data network (FIG. 1; 3:18 –

3:32). The NIU 22 may perform a loopback test in conjunction with test binary data from a Network Based Test System (NBTS) 32 so that the NBTS 32 may determine whether a network problem resides within the customer premises 10 or the local loop 14 (4:30 – 4:43). If that loopback test fails, indicating a problem with the local loop 14 (4:44 – 4:49), the NIU 22 is capable of generating a binary data pattern onto line pair 18 by way of the pattern generator circuit 36 when the command detector circuit 34 detects a command to do so from the NBTS 32 (4:66 – 5:8). This pattern generation test further localizes the source of the failure, because if the test fails, the problem exists on the line pair 18 (which carries data from the customer premises 10 to the local loop 14), but if it succeeds, line pair 16 (which carries data from the local loop 14 to the customer premises 10) is the culprit.

However, the pattern generator 36 only generates data for the line pair 18, not for any of the other lines 16, 24, 26 identified in Emerson. No discussion of pattern generation is made in Emerson regarding any of the other lines 16, 24, 26, as that would be unnecessary to support the stated narrow functionality of the NIU 22 of determining which direction within the local loop 14 is exhibiting a failure (Abstract). This functional limitation is also shown in the block diagram of the NIU 22 shown in FIG. 2; nothing in NIU 22 is shown to drive lines 16, 24, or 26, only the outbound line 18 of the local loop 14 may be driven with test data. Thus, the NIU 22 of Emerson does not have “the ability to generate test signals on any of the separate phone lines,” as required in independent claims 1 and 11 of the present application. As a result, the applicant believes that claims 1 and 11 are not anticipated by Emerson, and reconsideration of their patentability is respectfully requested.

In addition, since claims 2-9 depend from claim 1, and claims 12-18 depend from claim 11, the applicant further believes that these claims are allowable as well.

More specifically concerning claim 2, the examiner states that “Emerson teaches the slave (22 figure 1) uses pattern generator (36 figure 1) to send electrical signals back to remote (32 figure 1).” (Page 3 of the office action.) Although that assertion is true, that statement does not appear to address the specific limitation of claim 2, which requires a “means for *encoding* the test commands into the electrical signals sent via the phone line connectors to the remote test unit.” (Claim 2; emphasis supplied.) According to the present invention, the encoding of the test commands allows the commands from the remote test unit to be passed on to yet another slave test unit so that a master test unit need not be directly connected to a phone line being tested (10:19 – 11:2 of the present application). The NIU 22

of Emerson, on the other hand, does not have the capability to encode any commands. Rather, it “detects a remote pattern generation command sequence,” and then generates the test pattern and transmits it over the wire pair 18 (4:66 – 5:6). As a result, the limitation of claim 2 is not anticipated by Emerson. Therefore, regardless of the foregoing discussion concerning claims 1 and 11, the application believes that claim 2 is allowable.

Claim Rejections Under 35 U.S.C. 103(a)

The examiner has rejected claims 3 and 12 under 35 U.S.C. 103(a) as being unpatentable over Emerson. More specifically, the examiner states that “it would have been obvious...to modify the invention as taught by Emerson to use the pattern generator located in slave unit (i.e. 22 figure 1) to dial back the master (i.e. 32 figure 1).” (Page 4 of the office action.) The applicant respectfully disagrees. As a result of the previous discussion concerning claims 1 and 11, the applicant believes that claims 3 and 12, which depend from claims 1 and 11, respectively, are allowable. In addition, the pattern generator 36 of NIU 22 from FIG. 1, shown in greater detail as pattern generator circuit 62 in FIG. 4, “generat[es] several well known industry standard stress patterns...” (7:63 – 7:64). These patterns are disclosed in Emerson as various sequences of binary digits transferred in rapid succession. (See, for example, 5:17 – 5:49.) However, the dialback function normally required the use of dual-tone, multi-frequency (DTMF) analog signals normally associated with tone dialing. As a result, at the least, use of a digitally-based pattern generator 62 to produce analog signals such as DTMF for dialback is not obvious, and is likely not possible. Therefore, the applicant believes that claims 3 and 12, regardless of the above discussion regarding claims 1 and 11, are allowable in and of themselves.

The examiner has also rejected claims 5, 7-10, and 14-18 under 35 U.S.C. 103(a) as being unpatentable under Emerson in view of U.S. Patent Number 6,519,323 (“Hardy”). Again, in view of the above discussion concerning the allowability of claims 1 and 11, claims 5 and 7-10, which depend from independent claim 1, and claims 14-18, which depend from independent claim 11, should also be allowable.

More specifically concerning claims 7 and 17, the examiner states that “Hardy also shows the first and second test unit may be used to transmit signals back and forth wherein the second unit echos the signal back to first unit.” (Page 6 of the office action.) However, neither Emerson nor Hardy indicates the ability of a test unit to receive *commands* from a

slave test unit acting as a remote test unit. This ability is required in claims 7 and 17 by way of claims 1 and 11, which indicate that the test commands are “received exclusively from the remote test unit.” (Claims 1 and 11.)

With respect to Emerson, the NIU 22, as discussed above, receives its commands from the NBTS 32 (a master test unit), not another NIU 22 (a slave unit.)

In general, Hardy discloses a network interface device (NID) 124 which includes an activation signal detector 306, which activates an integrated test unit 304 by way of a switch 308 (FIG. 1; 4:61 – 4:67; 5:27 – 5:43). The test unit 304 may also be turned off in the absence of the activation signal, or if a local on-hook condition is detected (4:61 – 4:67). The switch 308 can represent only two states, activated or not activated, based on whether the switch is open or closed. No discussion is provided in Hardy that any *commands* are *transferred* to or from the test unit 304, such as dialback, loopback, or quiet termination. Apparently, the test unit 304 runs a predetermined set of tests once activated in order to identify the presence and location of problems within the telephone network (5:37 – 5:41). Alternately, the test unit 304 may be what is termed an Interactive Telephone Response Module (5:19 – 5:24). That particular unit, the subject of Application Number 09/019,323, which is incorporated into Hardy by reference, actually requires human intervention at the verbal prompting of a “test coordinator” to initiate various commands at the remote location. (See FIG. 8 and 6:18 – 6:60 of U.S. Patent Number 6,108,404, which resulted from Application Number 09/019,323.)

As a result, neither Emerson nor Hardy discloses a slave test unit whose test commands are received exclusively from another slave unit. The applicant thus believes that claims 7 and 17 are allowable as a result.

Similarly, claim 15 requires that one of the test commands executed be “an encoding and transmission of the test commands via at least one of the phone connections.” (Claim 15.) Neither Emerson nor Hardy show this capacity, as indicated above. As a result, claim 15 should be allowable in its own right, as well.

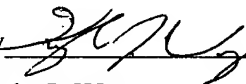
As to claim 9, wherein the phone line connectors of the test slave unit are adapted for FXO/FXS telephone ports, the examiner states that “Hardy shows long distance telephone lines (col. 1 lines 6-9) which reads on FXO.” (Page 7 of the office action.) However, FXO/FXS is a specific type of standardized communication port utilized in telephone equipment, representing specific signaling specifications, connectors, connector pinouts, and

the like. Such ports are commonly found on PBX systems in offices and other establishments, both domestically and abroad. As a result, FXO (Foreign Exchange Office) and FXS (Foreign Exchange Station) ports do *not* necessarily involve long distance communications at all. Therefore, Hardy's reference to long distance telephone lines does not disclose the use of connectors adapted for use with FXO/FXS. Thus, the applicant believes that claim 9 is allowable.

Conclusion

As a result of the foregoing discussion, it is believed that claims 1-18 comply with the provisions of 35 U.S.C. 102 and 103. Reconsideration and favorable action are respectfully requested.

Respectfully submitted,

by  _____

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